

**KY COURSE 71: COMMERCIAL REAL PROPERTY APPRAISAL  
BY USE OF THE COST APPROACH  
First Day Reading Assignment  
Rev. 2005**

**Preface**

Kentucky Property Tax Course 71 has been developed by the Office of Property Valuation for the purpose of providing education and training in the technical, legal and administrative aspects of property tax administration. These courses are open to all Property Valuation Administrators, their deputies, and Department of Revenue personnel. Upon successful completion of Kentucky Course 71, fifteen credit hours can be applied toward earning a Kentucky professional designation.

The course will begin with a brief review of the appraisal process as it pertains to the cost approach to value. A major part of the course will consist of demonstration appraisals using cost manuals and computerized techniques. The properties selected are typical of the properties to be appraised by Kentucky assessors. Although the sample data is hypothetical, it is, nonetheless, realistic. The following properties will be examined:

1. Restaurant (fast food)
2. Convenience Food Store/Mini-Mart
3. Mini-Warehouse
4. Office Building
5. Multiple Residence Apartment
6. Bank - Central Office

7. Car Wash
8. Savings & Loan
9. Miniature Golf Course/Clubhouse
10. Supermarket/Neighborhood Shopping Center
11. Industrial (Manufacturing)

Students should have the necessary tools needed for valuing commercial and industrial properties by the time the course is completed by manual method or using computer software.

# **CHAPTER ONE**

## **COST APPROACH**

The cost approach to value, also known as the summation approach, provides a value indication that is the summation of the estimated land value and the depreciated cost of the building and other improvements. The cost approach to value is based upon the principle of substitution - that a rational, informed, purchaser will pay no more for a property than the cost of acquiring an acceptable substitute with like utility, assuming that no costly delay will be encountered in making the substitution.

The primary use of the cost approach is to obtain a value estimate that can be compared with value estimates from the other two approaches. However, at times there is no sales data available. This is especially true for special-purpose properties, such as schools, hospitals and churches. Assessors are particularly interested in the cost approach because, when properly used, it is applicable to most classes of improved property and serves as a good foundation for uniformity and equality in assessments. The cost approach can be readily adapted to mass appraisal projects if current cost and depreciation schedules are market- oriented.

### Basic Steps in the Cost Approach

- A. Estimate the cost to reproduce (or replace) new the current improvement;
- B. Estimate the accrued depreciation: Depreciation existing in a property at a given date. The difference between cost new and present appraised value.
  - 1. Physical deterioration - Wear and tear from the forces of nature such as decay, dry rot, cracks, structural defects, etc.

2. Functional Obsolescence - Loss in value due to poor plan, mechanical inadequacy or overadequacy, functional inadequacy due to size, style, age, etc. Evidenced by conditions within the property.
  3. External Obsolescence - Loss of value due to external causes outside of property, such as neighborhood infiltrations of inharmonious groups or property uses, legislation, etc.
- C. Subtract accrued depreciation from the estimated cost new;
- D. Estimate the site value;
- E. Add estimated site value to estimated depreciated replacement or reproduction cost.

A. Cost Estimation

Cost estimation is the process by which the replacement cost or reproduction cost of improvements is obtained by the appraiser. To arrive at a cost estimation for commercial and industrial property, all pertinent physical data regarding the improvements must be collected. Physical data includes the following information:

1. Occupancy
2. Building configuration
3. Floor area
4. Building classification and quality type
5. Exterior wall construction
6. Heating type

7. Cooling type
8. Miscellaneous additions (elevators, sprinkler system, etc.)
9. Total perimeter
10. Number of stories
11. Story height
12. Building items and improvements (Example: mezzanine, basement)
13. Building effective age
14. Building condition

The three concepts of cost estimation are:

Reproduction Cost - cost of producing an exact replica using the same or very similar materials, design and workmanship;

Replacement Cost - cost of producing a building having the same utility, but using modern materials, design and workmanship;

Historical Cost - actual cost of constructing an improvement at the time it was built.

Reproduction cost can be used for most buildings, but the appraiser must consider all forms of depreciation.

In appraising structures of considerable age, the replacement cost should be used since such structures cannot be physically or economically reproduced today.

However, the usefulness of cost as an indicator of value must be kept in its proper context. The assessor or appraiser should always keep in mind that the objective is value, not cost. Cost estimating is not appraising, it is only one step in the appraisal process.

There are four methods of estimating current cost. They are:

1. Quantity survey (segregated cost method)
2. Unit-in-place (segregated cost method)
3. Square-foot or cubic feet (calculator method)
4. Factored historical cost

The quantity survey method itemizes in great detail all of the direct and indirect costs of each item in the construction of a building. (Example # of 2x4's in roof, walls, etc.). Because it is so time-consuming, this method is rarely used by an assessor, even though it is extremely reliable. Assessors may encounter quantity survey estimates in the appeals process. The unit-in-place method is a variation of the quantity survey method. It combines the direct and indirect costs into a single unit cost. This unit cost is then multiplied by the area of the portion of building being priced. (Example: brick veneer wall). The square-foot or cubic-foot methods are based on floor area or volume of a structure. Although not as accurate as the first two methods, they are easy to use and understand. The cost per square-foot or cubic-foot is simply multiplied by the total area or volume to arrive at a total indication of value. The factored historical cost method is used to value one-of-a-kind or special purpose structures. The date of construction and the original cost must be known and a conversion factor used to bring the value up to date.

## Cost Manuals

There are several good commercial and industrial cost services and manuals available today to the assessor. These cost manuals are produced through an analysis of the construction market throughout the United States. All manuals come with a list of indexes or factors to localize the costs to each particular area.

For the purpose of this commercial and industrial course the cost manual which will be used is produced by Marshall & Swift.

The Marshall Valuation Service contains information necessary for determining the local replacement cost new for commercial, institutional, and light industrial building types. By subtracting accrued depreciation from the local value figure, an accurate estimate of value can be obtained. Detailed information and step-by-step instructions are included in the manual to ensure proper use.

There are basically seven steps involved in using the valuation guide:

1. Determine the occupancy, class, and overall quality of the building.
2. Select the base cost (square foot, cubic foot or square meter) from the appropriate cost page in Sections 11 through 18.
3. If necessary, adjust the base cost for the following refinements:
  - a. heating and cooling
  - b. elevators

- c. sprinklers
- 4. If necessary, adjust the cost for the following height and size refinements:
  - a. number of stories multiplier
  - b. height per story multiplier
  - c. floor area-perimeter multiplier
- 5. Adjust the cost for time (current cost multiplier).
- 6. Adjust the cost for location (local multiplier).
- 7. If applicable, apply any of the following:
  - a) additional special cost considerations
  - b) depreciation
    - 1) Physical Deterioration - loss in value due to wear and tear, use in service, and exposure to the elements.
    - 2) Functional Obsolescence - is a loss in value due to overcapacity or inadequacy. Examples include poor or inappropriate architecture, lack of modern equipment or a wasteful floor plan.
    - 3) External Obsolescence (sometimes called economic obsolescence) - is a loss in value caused by unfavorable economic influences occurring outside the property.

The Marshall and Swift guide contains depreciation tables which will provide an accurate representation of physical deterioration; however, they cannot estimate depreciation due to functional and economic reasons. The assessor must determine the amount of depreciation due to obsolescence in addition to the depreciation factors found in the tables in the cost guide. The resulting improvement value equals replacement cost new less depreciation.



The Marshall and Swift cost guide lists the following indicators to consider when evaluating physical deterioration, functional and external obsolescence.

#### Physical Indicators

- 1) Uneven or sagging floors.
- 2) Cracks in plaster, open joints in millwork,
- 3) Defective wiring, broken or tarnished light fixtures, loose switches, leaking faucets or piping connections.
- 4) Evidence of roof leakage, stained interior ceilings.
- 5) Peeling paint, water or mildew stains, sticking doors.

#### Functional Indicators

- 1) Unappealing, poor, or antiquated style or design, traffic and noise levels.
- 2) Suitable room or floor layout and orderly flow, net vs. gross space, column, beam or mechanical obstructions, appropriate wall heights, lighting levels,
- 3) Inadequate or antiquated plumbing, electrical, or lighting fixtures.
- 4) Land use, size, shape, topography, access, parking, and utilities

External obsolescence is a change in the value of property resulting from forces outside the property itself. It can usually be divided into two types: locational and economic. Locational factors are generally incurable and may affect only a small area while economic factors may cover a wide geographic area and may be only temporary and reversible. When considering the extent of external obsolescence, the assessor should pay particular attention to the following indicators:

- 1) Proximity of desirable or unattractive natural or artificial features or barriers, noise, traffic or flight patterns.
- 2) Demand/supply imbalance, saturation or monopoly, competition or alternatives, market share, industry or major plant relocation, employment development and growth patterns, downsizing, changing consumer habits.
- 3) Surrounding highest and best use; availability, quality, and source of utilities and public services; street improvements; traffic patterns; public parking.